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Thank you, Mr. Nishida, for introducing me. First, I'd like to express my gratitude for giving me this opportunity to speak at this symposium. My object at this conference is to encourage the development and dissemination of EFVs, such as safe and environmentally friendly, affordable and acceptable to society.

Another object is to share the latest information regarding countermeasures for these vehicles. I believe that this conference will be useful to overcome environmental program, such as automotive, pollution, global warming and others.

Now I want to start my presentation regarding the Japanese activities in terms of the following four topics. First, the current status and countermeasures concerning the operation. Second, the current status and countermeasures concerning global warming. Third, the countermeasures for the development and promotion of new technologies.

First conclusion: This chart shows the breakdown of exhaust emissions in Japanese metropolitan areas by source. Automobiles are responsible for 52 percent of NOX emissions and 43 percent of PM emissions. Consequently, the countermeasures for automobile emission are very important to protect the clean air.

As for emission regulations, Japan has been strengthening emission regulations step-by-step, especially as for the regulation for heavy-duty vehicles, which are responsible for a large proportion of exhaust emissions. We just strengthened the NOX and PM emission regulations for these vehicles from October 2003 as shown in this chart. We also decided to further strengthen these regulations in 2005 to the most stringent level in the world.

In order to strengthen the emission regulations for these vehicles, it is necessary to improve fuel quality as well. Therefore, Japan planned to initiate a lower sulfur diesel regulation requiring the sulfur content of diesel fuel to be not more than 50 PPM from 2005. After that, Japan plans further reduction of sulfur content to 10 PPM.

The rate of complying with the air quality standards is extremely low in Japan's urban areas because there is a large volume of low traffic in urban areas. Therefore, special regulation in addition to the emission regulation for new vehicles is enforced in urban area, such as Tokyo metropolitan area, Aichi area and Osaka area as shown in this map.

This special regulation, restricts the use of old and high emission vehicles and is intended to prompt, switch over, to new vehicles. For example, in these areas,

small-sized trucks are allowed to be used for as long as eight years from its first registration, but not longer.

At the KOP3 conference held in Kyoto held December 1997, Japan promised to reduce its annual average CO2 emissions between 2008 and 2012 to six percent below the amounts recorded in the reference year 1990. In keeping with this promise, the Japanese government ratified the Kyoto Protocol and amended its domestic laws in June 2002 and make effort against global warming. However, Japan's total CO2 emissions actually rose five percent between 1990 and 2001. To honor the Kyoto Protocol commitment, we have to reduce CO2 emissions by 11 percent between 2001 and 2010.

As shown in this graph, 22 percent of Japan's CO2 emissions come from the transport sector and automobile amounts account for 88 percent of emissions from the transport sector. This means that automobiles are responsible for roughly 20 percent of Japan's total CO2 emissions.

The CO2 emissions of the transport sector increased between 1990 and 2001. And this trend continues while we apply no additional countermeasures. The amount seems to increase to about 300 million tons in 2010.

We can say that the rise in CO₂ emissions from the transport sector is attributable mostly to private use, passenger cars as the graph shows, under these circumstances the Japanese government developed their guidelines for measures to prevent global warming in order to reduce CO₂ emissions.

According to the guidelines, the target of CO₂ emissions for the transport sector was set to reduce 46 million tons in 2010 as compared to the projected months, assuming the continuation of the current trend. This chart indicates the countermeasures for transport sector provided in the guidelines for measures to prevent global warming. The countermeasures include traffic law measures, development and dissemination of EFV model shifts and efficient fuel vehicle sources and promotion of use of public transports and others.

We believe that target is 46 million tons reduction of CO₂ emissions can be achieved with effective implementation of these measures. The measures for the development and dissemination of EFVs include the establishment of a new fuel economic regulation, promotion of widespread use of EFVs and promotion of FCV vehicles and others.

This table shows the fuel economic regulation that gasoline cars must reach by 2010 and diesel cars must achieve by 2005. These regulations were decided according

to the popular principle, whereby the regulation would be considered and decided based on the vehicle with the best fuel economy performance in the market. After these regulations were set in 1999, automotive manufacturers tried to improve the fuel economy performances of these cars.

Today, with the help of tax incentives, many gasoline cars have already reached the regulations. Currently, the largest source of air pollution by the transport sector is diesel vehicles. So, JAMLIT is trying to develop EFVs that can replace conventional heavy-duty diesel vehicles.

The target for this next generation EFVs are to keep the power and fuel economy comparable with existing heavy-duty diesel vehicles, to reduce NOX emission to one-tenth of the existing NOX target set for heavy-duty diesel vehicles for 2005, to reduce PM emission to nearly zero.

Japan aims to achieve the use of more than 10 million EFVs as early as possible, by 2010 at the latest. For this purpose Japan implements various incentive programs actively, which include subsidies to introduce EFVs, tax incentives to purchase and keep EFVs (low-interest financing).

Fuel cell vehicles are expected to be the ultimate clean vehicles. Forty-six fuel cell vehicles, including five buses are now running in Japan. However, in order to

use practically, we still have to overcome remaining hurdles, such as to ensure the safety concerning hydrogen fuel and to construct fuel supply infrastructures.

Japan plans to develop the safety and other technical regulations for fuel cell vehicles in the fiscal year of 2004, based on the data obtained from road running tests in order to be able to apply our type designation system, which is for their the mass production. In addition, we are planning to build 10 hydrogen substations by the end of March 2004.

The Japanese government targets that that 50,000 fuel cell vehicles are in use by 2010, and five million fuel cell vehicles are in use by 2020.

Finally, as part of my presentation, I'd like to point out four important points. First, EFVs that we want to develop and disseminate must be effective in the prevention of both air pollution and global warming.

Second, it is necessary to support to the technological development of EFVs and the countermeasures for the dissemination of EFVs should be taken, depending on needs and conditions of each country.

Third, the development of EFVs is best accomplished by the close cooperation among government, industries and universities, and it is also beneficial to exchange information between other countries.

Fourth, we should try to achieve the international harmonization of technical regulations for fuel cell vehicles and for other EFVs. So we should make an effort on this framework of the UN/ECE/WP29, which is world forum for harmonization of vehicle regulations.

Thank you for your kind attention.